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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,286	04/02/2007	Sung Wan Park	1630-0539PUS1	3176

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EXAMINER

SHIBRU, HELEN

ART UNIT	PAPER NUMBER
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2621

NOTIFICATION DATE	DELIVERY MODE
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08/04/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/581,286	Applicant(s) PARK, SUNG WAN	
	Examiner HELEN SHIBRU	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 10-18, 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 10-18, 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments, filed 05/24/2010, have been entered and made of record. Claims 1-4, 6, 10-18, 20-22 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-4, 6, 10-18, and 20-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6, 10-11, 13-18, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura (US PG PUB 2001/0033619 A1) in view of Kerr (US Pat. No. 5, 844, 600).

Regarding claim 1, Hanamura teaches a method for transcoding an audio/video (A/V) stream, the method comprising: dividing a compressed digital A/V stream into audio and video data (see demultiplexer 610 in figure 1 where the prior art shows the audio, the video, and the other data are demultiplexed); transcoding the divided video data (see unit 640 where the video data is only transcoded after demultiplexing the inputted transport stream); synchronizing the divided audio data with the transcoded video data (see paragraphs 0280, 0314,

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0325, and figure 9 where the prior art teaches the non reduction Ts packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presentation Time Stamps (PTSs) of audio and video data (see the response above and (see paragraphs 0244, 0320, and 0325 audio and video are synchronized by matching the value of audio and video PTSs); and packetizing the synchronized audio and video data into a digital A/V stream (see figure 1 where it shows, MPEG-2 TS multiplexer 620, the audio and the transcoded video multiplexed and MPEG-2 transport stream is outputted, see also figure 6 and paragraph 0330); and wherein the step of transcoding includes transuding only the video data, and not transcoding the audio data (see figures 1 and 6 which shows transcoding only the video data).

Claim 1 differs from Hanamura in that the claim further requires the step of synchronizing includes generating a new PTS value for video data and generating a PTS value for the divided audio data based on the new PTS value for the transcoded video data.

In the same field of endeavor Kerr teaches separating the audio and the video data (see figures 5a, 5b, and 5c); recovering video time stamp (referring to obtaining new PTS value) (see step 313a in figure 5b); the time stamp for the video information is compared against a local clock in order to determine video coding and the result to that comparison, or a function thereof, is then used to delay audio signal (referring to generating PTS value for the audio based on the new PTS value of video) (see col. 9 lines 2-31). See also the rest of col. 9 and col. 10.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanamura by adding the step of generating new PTS value for the transcoded video data and generating PTS value for the audio data depending on the generated new PTS value of the video data in order to avoid audio and video discontinuities such as video verifier underflow or overflow by delaying the audio data.

Regarding claim 2, Hanamura teaches the transcoding step comprises reducing a bit rate of the video data (see figure 5, paragraphs 245, 255 and 280 where the prior art teaches the output bit rate is reduced, see also figure 6 where the prior art shows the video data goes to the process of transcoding where the bit rate of the video data is reduced).

Note to the Applicant: The USPTO considers the Applicant's "or" and "at least one" language to be anticipated by any reference containing one of the subsequent corresponding elements.

Regarding claim 3, Hanamura teaches the bit rate of the video data is reduced by reducing a frame size and a frame rate of the video data (see paragraphs 0265 and 0312, the size and the rate of the video data are reduced).

Regarding claim 4, Hanamura teaches the digital A/V stream is compressed based on an MPEG standard (see figure 1 where the prior art shows MPEG-2 TS is inputted and outputted).

Regarding claim 6, Hanamura discloses original PTSs of video data before the video data is transcoded are used for the transcoded video data (see paragraphs 0325 and 0329, the PTS located at the header of the inputted video stream is used for the transcoded data).

Regarding claim 10, Hanamura discloses temporarily storing the divided audio data before synchronizing the divided audio data with the transcoded video data (see the non reduction buffer 230 in figure 6 and paragraphs 0285 and 0314).

Regarding claim 11, Hanamura discloses a size of a buffer for temporarily storing the audio data is determined based on both a time required to transcode the video data and a bit rate of the audio data (see paragraphs 0408, 0418, and 0420 where the prior art teaches the measuring the volume of the audio buffer is measured by transcoding time and the rate of the audio data).

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Regarding claim 13, Hanamura discloses transmitting the packetized digital A/V stream (see paragraph 0279 and last three lines of claim 14, the output packets are transmitted through transmitting path).

Regarding claim 14, Hanamura teaches receiving the compressed digital A/V stream is via a digital broadcast (see paragraph 0268).

Regarding claim 15, Hanamura discloses an apparatus for transcoding a digital audio/video (A/V) stream, the apparatus comprising: a demultiplexer configured to divide a compressed digital A/V stream into audio and video data (see demultiplexer 210 in figure 6 where the prior art shows the non-reduction buffer (audio), and the video are demultiplexed); a buffer configured to temporarily store the divided audio data (see non reduction buffer 230 in figure 6); a transcoder configured to transcode the divided video data to a specified format (see video ES transcoder 244 in figure 6); a synchronizer configured to synchronize the divided audio data with the transcoded video data see paragraphs 0280, 0314, 0325, and figure 9 where the prior art teaches the non reduction TS packet is an audio data and the transcoded video data is synchronized with the non reduction TS packet) by matching Presentation Time Stamps (PTSs) of the audio and video data (see the above response and rejection of claim 1 above); and a packetizer configured to packetize the synchronized audio and video data into a digital A/V stream (see paragraphs 0330 and figure 6, MPEG-2 TS multiplexer 220, the audio and the transcoded video multiplexed and MPEG-2 TS is outputted); and wherein the step of

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transcoding includes transuding only the video data, and not transcoding the audio data (see figures 1 and 6 which shows transcoding only the video data).

Claim 15 differs from Hanamura in that the claim further requires the step of synchronizing includes generating a new PTS value for video data and generating a PTS value for the divided audio data based on the new PTS value for the transuded video data.

In the same field of endeavor Kerr teaches separating the audio and the video data (see figures 5a, 5b, and 5c); recovering video time stamp (referring to obtaining new PTS value) (see step 313a in figure 5b); the time stamp for the video information is compared against a local clock in order to determine video coding and the result to that comparison, or a function thereof, is then used to delay audio signal (referring to generating PTS value for the audio based on the new PTS value of video) (see col. 9 lines 2-31). See also the rest of col. 9 and col. 10.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanamura by adding the step of generating new PTS value for the transcoded video data and generating PTS value for the audio data depending on the generated new PTS value of the video data in order to avoid audio and video discontinuities such as video verifier underflow or overflow by delaying the audio data.

Regarding claim 16, the limitation of claim 16 can be found in claims 2 and 3 above. Therefore claim 16 is analyzed and rejected for the same reasons as discussed in claims 2 and 3.

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Regarding claim 17, Hanamura discloses original PTSs of the video data before the video data is transcoded are arranged to synchronize the divided audio data with the transcoded video data (see paragraphs 0325 and 0329, the inputted PTS values are used to synchronize and the reduced data and the non reduced data).

Regarding claim 18, Hanamura teaches the transcoder and synchronizer are adapted so that transcoding and the synchronizing are performed on a section-by-section basis, each section having continuous PTS values (see figure 116, paragraphs 0434, 0441, and 0447 where the prior art teaches number of frames are transcoded in section with PTS values assigned to each).

Claim 20 is rejected for the same reasons as discussed in claim 11 above.

Regarding claim 22, Kerr teaches a transmitter configured to transmit packetized digital A/V stream to a client computer through a communication network (see figure 2a, network 120 transmitting A/V stream to users (112a-c) from source terminals, see also col. 4 lines 19-56).

5. Claims 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanamura in view of Kerr and further in view of Official Notice.

Regarding claim 12, although Hanamura discloses a storage medium having transcoding coding, the proposed combination fail to disclose recording the outputted packetized digital A/V stream to a recording medium. Official Notice is taken that it is notoriously well known to connect the Hanamura's multiplexer, 620, to a digital recording device to record the lowered bit rate stream in to a recording medium. Therefore it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to modify the above combination by adding a recording device to record the digital stream in to the digital recording medium in order to produce the digital stream multiple times.

Regarding claim 21, the limitation of claim 21 can be found in claims 12 and 14. Therefore claim 21 is analyzed and rejected for the same reason as discussed in claims 12 and 14 above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN SHIBRU whose telephone number is (571)272-7329. The examiner can normally be reached on M-F, 8:30AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HELEN SHIBRU/
Examiner, Art Unit 2621
July 31, 2010

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621